REMARKS

Claim Changes

Claims 1, 3, 7, 14, 16, 17, 19 and 22 have been amended to more distinctly claim that which Applicant regards as the inventions therein or to correct minor errors.

Objection to the Claims

In response to the objection to claim 19 for informalities, Applicant has claim 19 to remove a typographical error as requested. Accordingly, the objection is believed to be fully addressed.

Rejection of claims 4, 7-12 under 35 U.S.C. § 112, first paragraph

The Examiner points out a mathematical problem with equation 4, due to the definition of the terms. Paragraphs [0119 -1120] of the specification were amended to correct the definition of one of the variables, by clarifying that one of the variables represents a measured signal. Those of skill in the art will readily recognize that the correction brings equation 4 in line with the surrounding description in the specification. No new matter has been added.

Claim 7 has also been amended to be consistent with the description as amended.

Accordingly, Applicant respectfully requests that the rejection be withdrawn.

Rejection of claims 1, 3, 14, and 16 under 35 U.S.C. § 112, second paragraph

Claims 1, 3, 14, and 16 were amended to remedy the objection under 35 U.S.C. §112, second paragraph. Applicant submits that claims 1, 3, 14, and 16 as amended overcome this rejection. Accordingly, Applicant respectfully requests the rejection be withdrawn.

Rejection of claims 17-18 and 22 under 35 U.S.C. § 112, second paragraph

Claims 17-18 and 22 were rejected under 35 U.S.C. §112, second paragraph because the phrase “if” allegedly renders the claim “unclear whether the limitation(s) following the phrase are part of the claimed invention." Office action, pg. 3. Applicant respectfully traverses the rejection. The term "if" clearly defines a condition to occur, and provides a clear claim limitation. Those of skill in the art can readily assess the meets and bounds of the claim and determine the occurrence of the condition. Applicant notes that MPEP § 2173.05(d) deals with "exemplary claim language" (i.e. "such as" and "for example"), which may cause make the scope of the claim unclear. However, Applicant's use of the term "if" merely places a condition in the claim, which is not unclear, and it not exemplary claim language. Accordingly, Applicant respectfully submits that claims 17-18 and 22 are sufficiently clear and definite within the meaning of 35 U.S.C. § 112, para. 2. See MPEP § 2173.02. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

Rejection of claims 1-4, 13-15 and 18-19 under 35 U.S.C. § 102 (b) as being anticipated by US 5,404,161 (Douglass)

Applicant respectfully traverses the rejection of claims 1-4, 13-15 and 18-19 under 35 U.S.C. § 102(b) as being anticipated by Douglass.

Applicant respectfully submits that Douglass does not anticipate, either expressly or inherently, each and every element as set forth in independent claims 1, 13, 18, and 19. For example, independent claims 1, 13, 18, 19, 20, and 21 recite "[a transmitter for] generating [and transmitting] probe signals," and "calculating the return loss ratio for each probe signal." Claims 18 and 19 further recite "generate suitable control signals for use by a set top decoder to tune to a downstream channel carrying the TV channel...." Claim19 further recites "performing a setup process to learn the signature of each TV channel comprised of the return loss ratios of a plurality of probe signals," and "comparing the collection of return loss ratios to the signature stored in memory." Claim 21 further recites "store the collection of return loss ratios as a signature for the TV channel to which the TVR is currently tuned." Claim 22 further recites "learn the return loss ratio signature of said TV channel to which said TVR is tuned and store said signature in memory" which are not anticipated either expressly or inherently, in Douglass.

Douglass is directed to a technology for determining a channel to which a TV is tuned. The technology is implemented by detecting the TV's local oscillator signal from a cable which feeds a radio frequency signal to the TV. Signal detection is enhanced by modulating the signal mixed with a local oscillator. In addition to the above implementation or alternatively, a return loss in reflected picture carrier signals is measured by comparing input and reflected picture carrier signals. A profile of the return loss characteristics of a receiver is created for later channel identification. The return loss profile consists of a value representing a reflected picture carrier signal strength measurement for each possible tuned channel. See abstract, col. 8, lines 48-68.

Applicant respectfully disagrees with the statement in item 8, page 4 of the Office Action dated Nov. 15, 2007 that "Douglass discloses… generating probe signals." The cited passage, in contrast, discloses coarse tune voltage source presenting a voltage to a voltage controlled oscillator. However, Applicant's probe signals as recited in claims 1, 13, 18-21 are a plurality of independent sinusoidal signals generated in a digital-to-analog (DAC) converter, in order to probe the return loss of every channel during a training process. See Applicant's specification on page 5, line 31 to page 6, line 1 and page 22, lines 6-8. In contrast, Douglass' coarse voltage source presents a voltage to the VCO, in order to place a selected signal output from the mixer in the vicinity of a bandpass filter. See Douglass, col. 11, lines 7-8. Thus, Douglass fails to disclose generating probe signals for probing return loss of every channel during a training process.

Further, with respect to claim 18, the Office Action appears to equate Applicant's "if step 8 determines the TV channels are different/same, use the TV channel determined in step 7" to Douglass' verifying if a channel detected with one test with another test to ensure proper detection. However, claim 18 further recites "and generate suitable control signals for use by a set top decoder to tune to a downstream channel carrying the TV channel determined in step 7...." Such feature does not appear to be disclosed in Douglass.

Regarding claims 19, 20, 21, and 22 the Office Action appears to equate Applicant's "performing a setup process to learn the signature of each TV channel comprised of the return loss ratios of a plurality of probe signals," "store the collection of return loss ratios as a signature for the TV channel to which the TVR is currently tuned," and "learn the return loss ratio signature of said TV channel to which said TVR is tuned and store said signature in memory" to Douglass' creating a profile of return loss characteristics consisting of a value representing a reflected picture carrier signal strength. As explained in Applicant's specification on page 14, lines 19-31, a signature of a particular channel is a collection of the return losses at each of a plurality of probe frequencies while the TVR is tuned to that channel. Because the characteristics of bandpass filter in each tuner for each selected channel are unique, each selected channel has a unique return loss power magnitude or signature. The unique signatures for example, are used to solve the problem of ambiguity created by multiple frequency components having low reflected power that span more than one channel. See Applicant's specification, page 5, lines 26-33. In contrast, in Douglass, the profile of return loss characteristics is created based on tuning the TV to each possible channel and storing a value representing a signal strength of a reflected picture carrier signal. Thus, Applicant's feature of learning a signature of each TV channel comprising of return loss ratios of a plurality of probe signals is missing in Douglass.

Claim 19 further recites "comparing the collection of return loss ratios to the signature stored in memory." The Office Action specifically refers to Douglass' calculating return loss ratios and looking for a match with the profiles in a "learned" table as being analogous to Applicant's feature. According to Applicant's claim 19, a plurality of probe signals are generated and transmitted to a tuner of a TVR. A return loss is calculated on each probe signal and the calculated return loss is compared to the signature stored in memory. The signature is created as discussed above. The TV channel having the least difference between the return loss ratio and the signature is determined as the channel to which the TVR is tuned. In contrast, in Douglass, a return loss ratio is compared with a profile which is created based on signal strength of a reflected picture carrier signal.

In view of the foregoing, Applicant respectfully submits that Douglass does not disclose all of Applicant's claim features. Applicant therefore submits that claims 1, 13, 18-22 are not anticipated by Douglass, and therefore the rejection of claims 1, 13, 18-22 under 35 USC 102(b) should be withdrawn. Applicant requests that claims 1, 13, 18-22 may now be passed to allowance.

Dependent claims 2-12 and 14-15 depend from, and include all the limitations of independent claims 1 and 13. Therefore, Applicant respectfully requests reconsideration of dependent claims 2-12, 14-15 and requests the withdrawal of the rejection.

Rejection of Claims 5-6 under 35 U.S.C. § 103 (a) as being unpatentable over US 5,404,161 (Douglass) in view of US 5,857,003 (Geiger)

As mentioned above, Applicant respectfully submits that Douglass does not disclose "[a transmitter for] generating [and transmitting] probe signals," "calculating the return loss ratio for each probe signal," "generate suitable control signals for use by a set top decoder to tune to a downstream channel carrying the TV channel," "performing a setup process to learn the signature of each TV channel comprised of the return loss ratios of a plurality of probe signals," and "comparing the collection of return loss ratios to the signature stored in memory." As explained above, Douglass does not teach or suggest such features. Geiger is not believed to disclose such and the Office action does not appear to rely on Geiger for such. Accordingly, the combination of Douglass with Geiger also fails to disclose Applicant's claimed invention. Applicant respectfully requests withdrawal of the rejection of claims 5-6 under 35 USC 103(a). Applicant requests that claims 5-6 now be passed to allowance.

Further, claim 5-6 depend from, and include all the limitations of independent claim 1. For the above reasons, Applicant submits that claims 5-6 are not obvious in view of the combination of Douglass with Geiger, and therefore that the rejection of claims 5-6 under 35 USC 103(a) should be withdrawn. Applicant requests that claims 5-6 now be passed to allowance.

Rejection of Claim 20 under 35 U.S.C. § 103 (a) as being unpatentable over US 5,404,161 (Douglass) in view of US 6,208,799 (Marsh)

As mentioned above, Applicant respectfully submits that Douglass does not disclose "[a transmitter for] generating [and transmitting] probe signals," "calculating the return loss ratio for each probe signal," "generate suitable control signals for use by a set top decoder to tune to a downstream channel carrying the TV channel," "performing a setup process to learn the signature of each TV channel comprised of the return loss ratios of a plurality of probe signals," and "comparing the collection of return loss ratios to the signature stored in memory." As explained above, Douglass does not teach or suggest such features. Marsh is not believed to disclose such and the Office action does not appear to rely on Marsh for such. Accordingly, the combination of Douglass with Marsh also fails to disclose Applicant's claimed invention. Applicant respectfully requests withdrawal of the rejection of claim 20 under 35 USC 103(a). Applicant requests that claim 20 now be passed to allowance.

For the above reasons, Applicant submits that claim 20 is not obvious in view of the combination of Douglass with Marsh, and therefore that the rejection of claim 20 under 35 USC 103(a) should be withdrawn. Applicant requests that claim 20 now be passed to allowance.

Rejection of Claim 21-22 under 35 U.S.C. § 103 (a) as being unpatentable over US 5,404,161 (Douglass) in view of US 6,130,726 (Darbee)

As mentioned above, Applicant respectfully submits that Douglass does not disclose "[a transmitter for] generating [and transmitting] probe signals," "calculating the return loss ratio for each probe signal," "generate suitable control signals for use by a set top decoder to tune to a downstream channel carrying the TV channel," "performing a setup process to learn the signature of each TV channel comprised of the return loss ratios of a plurality of probe signals," and "comparing the collection of return loss ratios to the signature stored in memory." As explained above, Douglass does not teach or suggest such features. Darbee is not believed to disclose such and the Office action does not appear to rely on Darbee for such. Accordingly, the combination of Douglass with Darbee also fails to disclose Applicant's claimed invention. Applicant respectfully requests withdrawal of the rejection of claims 21-22 under 35 USC 103(a). Applicant requests that claims 21-22 now be passed to allowance.

For the above reasons, Applicant submits that claims 21-22 are not obvious in view of the combination of Douglass with Darbee, and therefore that the rejection of claims 21-22 under 35 USC 103(a) should be withdrawn. Applicant requests that claims 21-22 now be passed to allowance.

Acknowledgement of Allowable Subject Matter

Applicant thanks the Examiner for indicating the allowability of claims 16-17 once amended to be rewritten in independent form to include the limitations of the base claim and any intervening claims.

Conclusion

Having fully responded to the Office action, Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Such action is earnestly solicited by the Applicant. Should the Examiner have any questions, comments, or suggestions, the Examiner is invited to contact the Applicant's attorney or agent at the telephone number indicated below.

To the extent an extension of time is needed for consideration of this paper, Applicant hereby request such extension and, the Commissioner is hereby authorized to charge deposit account number 502117 for any fees associated therewith.

Respectfully submitted,

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